

# Stanford University Department of Statistics

## DEPARTMENTAL SEMINAR

4:30pm, Tuesday, May 22, 2018  
Sequoia Hall Room 200

Refreshments served at 4pm in the Lounge.

**Speaker:** Subhadeep (DEEP) Mukhopadhyay  
*Department of Statistical Science, Temple University*

**Title:** Bayesian Modeling *via* Goodness-of-fit

### Abstract:

The two key issues of modern Bayesian statistics are: (i) establishing principled approach for *distilling* statistical prior that is *consistent* with the given data from an initial believable scientific prior; and (ii) development of a *consolidated* Bayes-frequentist data analysis workflow that is more effective than either of the two separately. In this paper, we propose the idea of “Bayes *via* goodness-of-fit” as a framework for exploring these fundamental questions, in a way that is general enough to embrace almost all of the familiar probability models. Several examples, spanning application areas such as clinical trials, metrology, insurance, medicine, and ecology show the unique benefit of this new point of view as a practical data science tool.

Other pertinent information:

- This is a joint work with my student Douglas Fletcher.
- The arXiv link of the paper: [\[pdf\]](#)
- The associated R package `BayesGOF`: [\[link\]](#)